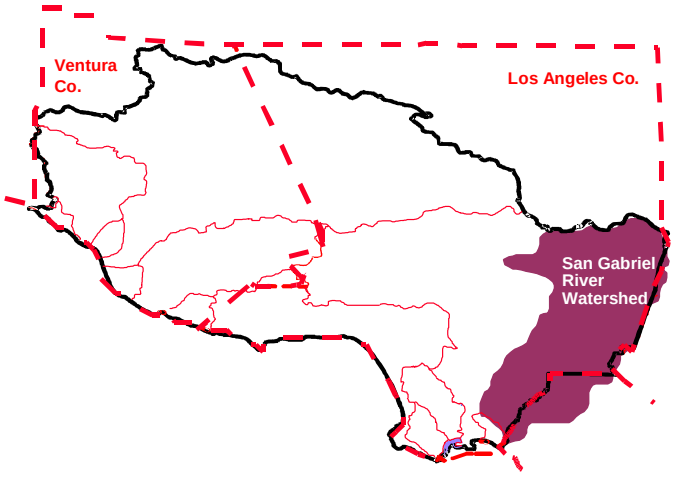
SAN GABRIEL RIVER WATERSHED

This watershed will be targeted for permit renewal purposes in FY05/06.

Overview of Watershed



Size of watershed: 689 sq. mi.

The San Gabriel River receives drainage from a large area of eastern Los Angeles County; its headwaters originate in the San Gabriel Mountains. The watershed consists of extensive areas of undisturbed riparian and woodland habitats in its upper reaches. Much of the watershed of the West Fork and East Fork of the river is set aside as a wilderness area; other areas in the upper watershed are subject to heavy recreational use. The upper watershed also contains a series of flood control dams. Further downstream, towards the middle of the watershed, are large spreading grounds utilized for groundwater recharge. The watershed is hydraulically connected to the Los Angeles River through the Whittier Narrows Reservoir (normally only during high storm flows). The lower part of the river flows through a concrete-lined channel in a heavily urbanized portion of the county before becoming an soft bottom channel once again near the ocean in the city of Long Beach. Large electrical power poles line the river along the channelized portion and nurseries, small stable areas, and a large poultry farm are located in these areas.

Beneficial Uses designated in the watershed:

Estuary	*Above Estuary*
Contact & noncontact water recreation	Contact & noncontact water recreation
Industrial service supply	Industrial service supply
Protection of rare & endangered species	Protection of rare & endangered species
Wildlife habitat	Wildlife habitat
Spawning	Spawning
Marine habitat	Warm- & coldwater habitat
Estuarine habitat	Municipal water supply
Navigation	Groundwater recharge
Commercial & sportfishing	Industrial process supply
Migratory	Agricultural supply

Water Quality Problems and Issues

Pollutants from dense clusters of residential and commercial activities have impaired water quality in the middle and lower watershed. Tertiary effluent from several sewage treatment plants enters the river in its middle reaches (which is partially channelized) while two power generating stations discharge cooling water into the river's estuary. The watershed is also covered under two municipal storm water NPDES permits. Several landfills are also located in the watershed.

Several reservoirs, which exist primarily for flood control purposes, occur in the upper part of the watershed. Frequent removal of accumulated sediments is necessary to maintain the flood control capacity of these reservoirs. Some of the removal methods previously used have had water quality impacts. Continued need for such maintenance could cause longer-term impacts. A study is currently underway to better assess impacts associated with the sluicing projects.

Significant Issues:

- Sluicing of reservoirs
- Protection of groundwater recharge areas
- Trash in upper watershed
- Mining/stream, modifications
- Ambient toxicity
- Urban and storm water runoff quality
- Nonpoint source loadings from nurseries and horse stables

Permitted discharges:

- 109 NPDES discharges including: ten major NPDES dischargers (five POTWs), 24 minor permits, 75 discharges covered under general permits
- 2 municipal storm water permits
- 534 dischargers covered under an industrial storm water permit
- 121 dischargers covered under a construction storm water permit

Types of permitted wastes discharged into the San Gabriel River Watershed:

Nature of Waste *Prior* to Treatment or Disposal	# of Permits	Types of Permits
Nonhazardous (designated) contaminated groundwater	5	General
Nonhazardous (designated) contact cooling water	1 2	Major Minor
Nonhazardous (designated) domestic sewage & industrial waste	6	Major
Nonhazardous (designated) wastes from dewatering, rec. lake overflow, swimming pool wastes, water ride wastewater, or groundwater seepage	4 38	Minor General
Nonhazardous (designated) noncontact cooling water	1 1	Minor General
Nonhazardous (designated) process waste (produced as part of industrial/manufacturing process)	1 2	Major Minor
Nonhazardous (designated) stormwater runoff	2 10 1	Major Minor General
Nonhazardous (designated) washwater waste (photo reuse washwater, vegetable washwater)	1	Minor
Hazardous contaminated groundwater	3 8	Minor General
Inert contaminated groundwater	1	General
Inert domestic sewage	1	General
Inert filter backwash brine waters	1	General
Nonhazardous contaminated groundwater	2	General
Nonhazardous wastes from dewatering, rec. lake overflow, swimming pool wastes, water ride wastewater, or groundwater seepage)	1	General
Inert wastes from dewatering, rec. lake overflow, swimming pool wastes, water ride wastewater, or groundwater seepage)	1 14	Minor General

Hazardous wastes are those influent or solid wastes that contain toxic, corrosive, ignitable, or reactive substances (prior to treatment or disposal) managed according to applicable Department of Health Services standards
Designated wastes are those influent or solid wastes that contain **nonhazardous** wastes (prior to treatment or disposal) that pose a significant threat to water quality because of their high concentrations
Nonhazardous wastes are those influent or solid wastes that do not contain soluble pollutants or organic wastes (prior to treatment or disposal) and have little adverse impact on water quality
Inert wastes are those influent or solid wastes that do not contain soluble pollutants or organic wastes (prior to treatment or disposal) and have little adverse impact on water quality

Major discharges are POTWs with a yearly average flow of over 0.5 MGD or an industrial source with a yearly average flow of over 0.1 MGD and those with lesser flows but with acute or potential adverse environmental impacts.

Minor discharges are all other discharges that are not categorized as a Major. Minor discharges may be covered by a general permit, which are issued administratively, for those that meet the conditions specified by the particular general permit.

A majority of the 109 NPDES permitees in the watershed discharge directly to the San Gabriel River (39). Twenty-one discharge to Coyote Creek and twelve discharge to San Jose Creek.

Of the 534 dischargers enrolled under the general industrial storm water permit in the watershed, the largest numbers occur in the cities of Industry, Irwindale, Pomona, and Santa Fe Springs. Auto wrecking, lumber, metal plating, trucking, and die casting are a large component of these businesses. About two-thirds of the facilities are greater than one acre in size and about 80 of them are larger than 10 acres

There are 175 construction sites enrolled under the construction storm water permit. The sites are fairly evenly divided between residential and commercial and a similar number of sites are found in both the upper and lower watershed. About one-half of them occur on sites that are larger than ten acres.

IMPAIRMENTS: The upper reaches of the river (in the Angeles National Forest) are heavily used for recreational purposes and have been impacted from trash, debris, and habitat destruction. Various reaches of the river are on the 1998 303(d) list due to nitrogen and its effects, trash, PCBs and pesticides, metals, and coliform. The table below gives examples of typical data ranges which led to the listings.

Impairments	**Applicable Objective/Criteria**	**Typical Data Ranges Resulting in Impairment**	**303(d) Listed Waters/Reaches**
ammonia	Basin Plan narrative objective		San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam) San Gabriel River Reach 1 (Estuary to Firestone)
	Basin Plan numeric objective: varies depending on pH and temperature but the general range is 0.53 - 2.7 mg/l of total ammonia (at average pH and temp.) in waters designated as WARM to protect against chronic toxicity and 2.3-28.0 mg/l to protect against acute toxicity	ND - 21.1 mg/l (mean of 10.1±4.1)	San Jose Creek Reach 2 (Temple to I-10 at White Ave) San Jose Creek Reach 1 (SG confluence to Temple St.) Coyote Creek Legg Lake El Dorado Lakes
toxicity	Basin Plan narrative objective	0 – 100% survival	San Gabriel River Reach 3 (Whittier Narrows to Ramona) San Gabriel River Reach 1 (Estuary to Firestone) Coyote Creek Walnut Creek
algae	Basin Plan narrative objective		San Gabriel River Reach 1 (Estuary to Firestone) San Jose Creek Reach 1 (SG confluence to Temple St.) San Jose Creek Reach 2 (Temple to I-10 at White Ave) Coyote Creek El Dorado Lakes
Eutrophication	Basin Plan narrative objective		El Dorado Lakes
pH	Basin Plan numeric objective: 6.5 - 8.5 pH units	6.9 - 9.4 pH units (mean of 8.5±0.6)	Walnut Creek El Dorado Lakes Legg Lake Santa Fe Dam Park Lake
odors	Basin Plan narrative objective		Legg Lake
low DO, organic enrichment	Basin Plan narrative objective		Puddingstone Reservoir Crystal Lake
	Basin Plan numeric objective: annual mean greater than 7.0 mg/l no single sample less than 5.0 mg/l	0.1 - 14.9 mg/l (mean of 4.3±3.5)	
trash	Basin Plan narrative objective		San Gabriel River East Fork Legg Lake
Lead	USEPA water quality criteria: varies based on hardness but typically 3.2 - 25 ug/l	100 ug/l (maximum)	San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam) Santa Fe Dam Park Lake El Dorado Lakes Legg Lake
Arsenic (tissue)	State Board numeric objective (tissue): Max. Tissue Residue Level 200 ng/g	240 - 300 ng/g (tissue)	San Gabriel River Estuary
Copper	USEPA water quality criteria varies based on hardness but typically 12 - 47 ug/l	90 ug/l (maximum)	Legg Lake El Dorado Lakes Santa Fe Dam Park Lake
Silver	USEPA water quality criteria varies based on hardness but typically 4.1 - 65 ug/l	30 ug/l (maximum)	Coyote Creek
Mercury (tissue)	NAS guidelines (tissue): 500 ng/g	510 ng/g (tissue)	Puddingstone Reservoir El Dorado Lakes

Impairments	Applicable Objective/Criteria	Typical Data Ranges Resulting in Impairment	303(d) Listed Waters/Reaches
coliform	Basin Plan numeric objective: fecal coliform not to exceed log mean of 200 mpn/100ml in 30-day period and not more than 10% of samples exceed 400 MPN/100ml	ND - 240000 MPN/100ml	San Jose Creek Reach 2 (Temple to I-10 at White Ave) San Jose Creek Reach 1 (SG confluence to Temple St.) San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam) San Gabriel River Reach 1 (Estuary to Firestone) Coyote Creek
DDT	State Board numeric objective (tissue): Max. Tissue Residue Level 32.0 ng/g	25 - 36 ng/g (tissue)	Puddingstone Reservoir
PCBs	State Board numeric objective (tissue): Max. Tissue Residue Level 2.2 ng/g	54 - 65 ng/g (tissue)	Puddingstone Reservoir
chlordane	State Board numeric objective (tissue): Max. Tissue Residue Level 1.1 ng/g	16.1 - 31.7 ng/g (tissue)	Puddingstone Reservoir
abnormal fish histology	Basin Plan narrative objective		Coyote Creek San Gabriel River Reach 1 (Estuary to Firestone) San Gabriel River Estuary

CURRENTLY SCHEDULED TMDLS:

Type of TMDL	Listed Waters/Reaches in TMDL	Year Scheduled For Completion (FY)
coliform	San Gabriel River Reaches 1 and 2 San Jose Creek Reaches 1 and 2 Coyote Creek	02/03
Nitrogen and its effects	El Dorado Lakes Puddingstone Reservoir Legg Lake Santa Fe Dam Lake Crystal Lake	03/04
Nitrogen and its effects	San Gabriel River Reaches 1, 2, 3 San Jose Creek Reaches 1 and 2 Coyote Creek Walnut Creek	04/05
Metals	San Gabriel River Reach 2 San Gabriel River Estuary Coyote Creek	05/06

We see a need for an additional 1.4 PYs as well as $200,000 in contract dollars for FY02/03 TMDL work conducted in this watershed.

Stakeholder Groups

Los Angeles/San Gabriel Rivers Watershed Council: This nonprofit organization was formed in 1995 following a large watershed conference held in the area which served as a springboard for other efforts. The Council has a board of directors and became incorporated as a nonprofit organization in 1996. The group is tracking watershed activities, but has primarily focused on flood control issues in the Los Angeles River as well as opportunities to create greenbelts and restore habitat. The Council's goal is to help facilitate a process to preserve, restore, and enhance all aspects of the two watersheds. More information on this group may be found on their website http://www.lasgrwc.org/.

Friends of the San Gabriel River: This nonprofit organization was formed in 1999 that advocates water quality improvements, restoration of habitat, and increased access to the river for the public. The group recently received a grant from CalFED to conduct volunteer monitoring in the river. More information on this group may be found on their website at http://www.sangabrielriver.org/.

Past Significant Activities

CORE REGULATORY

Individual NPDES permits in this watershed were renewed in FY99/00.

WATERSHED MANAGEMENT

An in-house team of staff completed a "State of the Watershed Report" for the San Gabriel River. This report is available by request as hardcopy or electronic files.

MONITORING AND ASSESSMENT

As part of a larger-scale investigation which concluded in 1996, ambient toxicity (as well as fish histopathology) was evaluated at a number of locations in the river which lead to additional 303(d) listings for impairments. The East Fork Trash TMDL (1999) documented the main sources of trash in the upper watershed.

NONPOINT SOURCE PROGRAM

California State University, Fullerton, under contract with the Regional Board, completed a GIS-based project in the watershed during 2000 which involved verifying with Global Positioning Satellite (GPS) previous Regional Board sampling locations in the river. Digital photos and video of the locations were also taken and aerial photos were also taken. Outfalls, drains, and other structures were, in particular, documented. This information will augment the existing Regional Board GIS for that watershed.

Current Activities

The following is a summary of current regional board activities in the San Gabriel River Watershed which are expected to continue as part of the Watershed Management Initiative on a watershed basis.

CORE REGULATORY

Continuing core regulatory activities that will be integrated into the watershed management approach include (but are not limited to) necessary renewal/revision of NPDES permits. There are nine major dischargers, 25 significant or minor dischargers under individual permits, as well as 39 dischargers currently covered under general permits. Compliance inspections, review of monitoring reports, response to complaints, and enforcement actions relative to the watershed's NPDES permits will continue. All of the County Sanitation Districts' permits for their inland POTWs (which comprise most of the flow in the middle to lower river) are being renewed this year. Due to limited resources, only the basic regulatory activities are performed: review of dischargers' monitoring reports, minimum necessary inspections and sampling, issuance/ renewal of permits, levels 1 and 2 enforcement actions (noncompliance and violation notification), case handling, and answering inquiries from the public.

The San Gabriel River Watershed falls within Los Angeles County which has been covered by a municipal storm water permit since 1990. The third five-year permit was adopted on December 13, 2001. This permit covers Los Angeles County and all the incorporated cities, except the City of Long Beach, which was issued a separate municipal storm water permit in 1999. The Los

Angeles County Flood Control District is the Principal Permittee. Under the requirements of the permit, the Permittees will implement the Storm Water Quality Management Plan which includes the following components: (a) Program Management; (b) Public Information and Participation Program; (c) Industrial/Commercial Facilities Program; (d) Development Planning Program; (e) Programs for Construction Sites; (f) Public Agency Activities; and (e) Illicit Connection/Illicit Discharge Elimination Program. These programs collectively are expected to reduce pollutants in storm water discharges to the maximum extent practicable. In addition, the County will conduct a storm water monitoring program to estimate mass emissions and toxicity of pollutants in its waters, evaluate causes of toxicity, and several other components to characterize storm water discharges and measure the effectiveness of the Storm Water Quality Management Program. The permit can be downloaded from the Regional Board Storm Water website at http://www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/stormwater.html.

An important requirement of both the Los Angeles County and the City of Long Beach municipal storm water permits is implementation of the Standard Urban Storm Water Mitigation Plans (SUSMPs) and numerical design standards for Best Management Practices (BMPs), which municipalities began implementing in February 2001. The final SUSMP was issued on March 8, 2000, and amended in the permit, adopted on December 13, 2001. The SUSMP is designed to ensure that storm water pollution is addressed in one of the most effective ways possible, i.e., by incorporating BMPs in the design phase of new development and redevelopment. It provides for numerical design standards to ensure that storm water runoff is managed for water quality and quantity concerns. The purpose of the SUSMP requirements is to minimize, to the maximum extent practicable, the discharge of pollutants of concern from new and redevelopment. The requirements are very similar to the Ventura County SQUIMP.

The numerical design standard is that post-construction treatment BMPs be designed to mitigate (infiltrate or treat) storm water runoff from the first ¾ inch of rainfall, prior to its discharge to a storm water conveyance system. Other standards also apply; additional information on the SUSMP may be found on the Regional Board Storm Water website at http://www.swrcb.ca.gov/rwqcb4/html/news/susmp/susmp_details.html.

The watershed also falls partly within the City of Long Beach which was issued a municipal storm water permit in 1999.

NONPOINT SOURCE PROGRAM

The Regional Board encourages pollution prevention and source control; the 205(j), Prop 13, SRF, and 319(h) grants are tools to provide funds for these types of projects. For FY02/03, we have listed as a priority for 319(h) grant funding activities (see Table 3) which demonstrate effective ways to reduce loadings of trash, nutrients, and coliform through pilot projects which implement trash reduction, management of horse corral runoff, golf course irrigation water runoff, urban runoff, or implementation of septic correction measures. High priority projects also include those involving restoration of aquatic and riparian habitats, as well as, enhancement of recreational uses.

MONITORING AND ASSESSMENT

In support of TMDL work, as well to obtain other needed information, we are requesting funding in order to start nitrogen, coliform, and metals TMDLs which are currently scheduled. We also plan on conducting ambient toxicity monitoring work and noted the need for a tidal prism mixing study to resolve issues concerning the fate of freshwater effluent in the estuary.

California State University, Fullerton, under contract with the Regional Board, completed a GIS-based project in the watershed during 2000 which involved verifying with Global Positioning Satellite (GPS) previous Regional Board sampling locations in the river. Digital photos and video of the locations were also taken and aerial photos were also taken. This information will augment the existing Regional Board GIS for that watershed.

BASIN PLANNING

Basin Planning activities will include continued participation in both internal and external watershed planning efforts and further incorporation of watershed management and principles and watershed-specific priorities into future updates of the Basin Plan, where appropriate.

The 2001 Triennial Review identified adoption of TMDLs as Basin Plan amendments the highest priority item that can be accomplished with current levels of funding. An estimated 0.5 PYs/TMDL is utilized. Another high priority, currently funded item identified is an evaluation of specific proposals for changes to beneficial uses. After evaluation, one to three use revisions would be done over the next three years. There is one revision to be considered in this watershed, namely, moving El Dorado Lakes from the Los Angeles River Watershed to the San Gabriel River Watershed in the Basin Plan. Each use revision would utilize an estimated 0.1 PYs.

WETLANDS PROTECTION AND MANAGEMENT

The Southern California Wetlands Recovery Project considers development of an El Dorado Wetlands Restoration Plan a high priority in the current year's workplan. The Project also considers augmentation of funding for development of the Coyote Creek Subwatershed Management Plan (already partially funded though the County of Orange, Proposition 13, the County of Los Angeles, and the US Army Corps of Engineers) a high priority. A combined Lower Los Angeles and San Gabriel Rivers Habitat Needs Assessment is another high priority project.

The San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy is an independent State agency within the Resources Agency. State law established the Conservancy in 1999. Its jurisdiction includes the San Gabriel River and its tributaries, the Lower Los Angeles River and its tributaries, and the San Gabriel Mountains. Puente Hills, and San Jose Hills. It was established to preserve open space and habitats in order to provide for low-impact recreation and educational uses, wildlife and habitat restoration and protection, and watershed improvements within its jurisdiction. It is currently involved with finalizing an open space plan for the area. Propositions 12 and 13 have directed funds to the Conservancy.

The Santa Monica Mountains Conservancy is a state agency created by the Legislature in 1979 charged with primary responsibility for acquiring property with statewide and regional significance, and making those properties accessible to the general public. The Conservancy manages parkland in the Santa Monica Mountains, Santa Susana Mountains, the Simi Hills, the Santa Clarita Woodlands, the Whittier-Puente Hills, the Sierra Pelona, the Los Angeles River Greenway, the Rio Hondo, the Verdugo Mountains, the San Gabriel Mountains, and the San Rafael Hills. The agency's goals are to: 1) implement the Santa Monica Mountains Comprehensive Plan, 2) implement the Rim of the Valley Trails Corridor Master Plan, 3) implement the Los Angeles County River Master Plan, 4) further cooperation with local governments in the region to secure open space and parkland, and 5) expand education, public

access, and resource stewardship components in a manner that best serves the public, protects habitat, and provides recreational opportunities.

WATERSHED MANAGEMENT

The San Gabriel Mountains Regional Conservancy received Proposition 13 funding (Watershed Protection Subaccount) in 2001 to direct development of a watershed plan for the San Gabriel River above Whittier Narrows. This would include the Walnut Creek and San Jose Creek Watersheds.

Near-term Activities

Specific resource needs are described in the Region-wide Section of this document.

A preliminary review of resources for core regulatory activities against cost factors has determined that our region is seriously underfunded for our baseline program. We will be seeking more funding for our core program activities.

The 2001 Triennial Review identified a couple of high priority, currently unfunded items that affect this watershed. One is an evaluating adding or creating a subcategory of a beneficial use to better account for subsistence fishing as well as sport fishing in inland waters. This would require an estimated 0.5 PYs as well as contract dollars. Another priority is evaluating the appropriateness of a reservoir sluicing prohibition. This would require an estimated 0.5 PYs.

This watershed will be a focus for SWAMP monitoring in FY03/04.

We will maintain involvement with stakeholder activities and pursue funding options, especially those involving implementation of nonpoint source measures (coordinate 205(j), Prop. 13, SRF, and 319(h) activities) as well as other outreach activities such as speeches, meetings, and participation in environmental events. As resources permit, we will also work with stakeholders to implement provisions of the Coastal Zone Act Reauthorization Amendments.

Potential Long-term Activities

- Development of coordinated watershed monitoring program
- Hydrologic study of the estuary to evaluate mixing dynamics and effects on water quality and beneficial uses
- Evaluation of fish tissue from fish in the lower river and estuary
- Evaluation of toxicity impacts in the estuary
- Evaluation of habitats in the middle/lower river
- Evaluation of impacts from reservoir cleaning on water quality, particularly fisheries-related
- Evaluation of mining on instream beneficial uses
- Evaluation of impacts of reclaimed water on river/groundwater
- Evaluation of success of trash TMDL efforts in upper river
- Evaluation of impacts from industrial stormwater in the watershed
- Consideration of TMDL-related issues
- Implementation of biological monitoring